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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/652,159	08/31/2000	Te-Kai Liu	YOR9-2000-0385US1	2619
30743	7590	10/12/2004	EXAMINER	
WHITHAM, CURTIS & CHRISTOFFERSON, P.C. 11491 SUNSET HILLS ROAD SUITE 340 RESTON, VA 20190			FRENEL, VANEL	
			ART UNIT	PAPER NUMBER
			3626	

DATE MAILED: 10/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/652,159

Applicant(s)

LIU ET AL.

Examiner

Vanel Frenel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 08 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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## DETAILED ACTION

### Notice to Applicant

1. This communication is in response to the Amendment filed 07/08/04. Claims 1-2, 11 and 20 have been previously presented. Claims 1-20 are pending.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murakami et al. (6,253,980), Whipp et al (2002/0022979) in view of Rosenberg et al (2003/0206117), substantially for the same reasons given in the previous Office Action.

Further reasons appear hereinbelow

- (A) As per claim 1, Murakami discloses a car rental system comprising:  
a fleet of cars, each of which is operable only when a valid digital key  
is presented to the car, and each of said fleet of cars has a means to invalidate a  
digital key (See Murakami, Col.6, lines 29-67 to Col.7, line 63; Col.11, lines 5-57); and  
a management system for handling reservation and car return, said management  
system (See Murakami, Col.5, lines 57-67 to Col.6, line 28).

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Murakami does not explicitly disclose a key generation system for generating digital keys for renters of the car rental system; a key return system for processing digital keys returned by renters.

However, these features are known in the art, as evidenced by Whipp. In particular, Whipp suggests a key generation system for generating digital keys for renters of the car rental system (See Whipp, Page 3, Paragraphs 0025-0029; Page 5, Paragraphs 0050-0053); a key return system for processing digital keys returned by renters (See Whipp, Page 3, Paragraphs 0025-0029; Page 5, Paragraphs 0050-0053).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have included the features of Whipp within the system of Murakami with the motivation of providing a car rental system minimizing labor costs and local infrastructure support required to lease a vehicle from a remote site (See Whipp, Page 2, Paragraph 0015).

Murakami and Whipp do not explicitly disclose "wherein there exists no data communication link between the fleet of cars and the management system".

However, this feature is known in the art, as evidenced by Rosenberg. In particular, Rosenberg suggests "wherein there exists no data communication link between the fleet of cars and the management system" (See Rosenberg, Page 4, Paragraph 0071; Page 13, Paragraph 0199).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have included the feature of Rosenberg within the collective teachings of Murakami and Whipp with the motivation of providing no need for exchange of

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information between the vehicle location system control center and the central computer (See Rosenberg, Page 4, Paragraph 0071).

(B) As per claim 2, Whipp discloses the system further comprising a parking lot guarded by a security gate, said fleet of cars being parked within confines of said parking lot when not rented by a renter of the car rental system, said security gate only opening when a valid digital pass is presented by a renter of the car rental system (Page 6, Paragraph 0062-0064).

The motivation for combining the respective teachings of Murakami, Whipp and Rosenberg are as discussed above in the rejection of claim 1, and incorporated herein.

(C) As per claim 3, Whipp discloses the system wherein the management system is accessed by a prospective renter over a network and the prospective renter is given a digital key to operate a particular car and a digital pass to open the gate of the parking lot where said particular car is parked, after said prospective renter completes a reservation for said particular car, said digital key and digital pass being effective starting from the time specified by said reservation (Page 5, Paragraph 0050-0054).

The motivation for combining the respective teachings of Murakami, Whipp and Rosenberg are as discussed above in the rejection of claim 1, and incorporated herein.

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(D) As per claim 4, Murakami discloses the system wherein the prospective renter accesses the management system at a kiosk located in the parking lot where the particular car is parked (Col.17, lines 14-67).

(E) As per claim 5, Murakami discloses the system wherein the prospective renter accesses the management system over the Internet (Col.17, lines 14-67).

(F) As per claim 6, Whipp discloses the system wherein the key generation system stores a digital key on a storage device provided by a prospective renter (Page5, Paragraphs 0053-0056).

The motivation for combining the respective teachings of Murakami, Whipp and Rosenberg are as discussed above in the rejection of claim 1, and incorporated herein.

(G) As per claim 7, Murakami discloses the system wherein the storage device is a smart card (Col.6, lines 63-67 to Col.7, line 7).

(H) As per claim 8, Murakami discloses the system wherein the digital key comprises car and user identification (ID) signed by the management system to authenticate the digital key (Col.11, lines 6-67 to Col.12, line 22).

(I) As per claim 9, Murakami discloses the system wherein a renter of a car invalidates a valid digital key upon returning a car to the car rental system and presents an

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invalidated digital key to the key return system to complete a car return (Col.11, lines 6-67 to Col.12, line 67).

(J) As per claim 10, Murakami discloses the system wherein the invalidation of a valid digital key includes storing car status information relevant to computing by the key return system a receipt for the renter (Col.8, lines 24-64).

(K) As per claim 11, Murakami discloses a computer implemented method for operating a car rental system comprising the steps of

accessing a reservation server by a prospective car renter to reserve a car (See Murakami, Col.6, lines 29-67 to Col.7, line 63);

authenticating the prospective car renter by the reservation server (See Murakami, Col.12, lines 23-67) and,

upon the reservation server successfully authenticating the user, prompting the prospective car renter for the date, time, and location for pickup and return, and the type of car (See Murakami, Col.8, lines 65-67 to Col.9, line 67; Col.10, lines 1-67).

Murakami does not explicitly disclose checking by the reservation server an availability of a requested car and, if a car is available, creating by the reservation server a digital key by car and user information with a digital signature of the reservation server; and downloading the digital key to a portable storage device, the portable storage device being used to gain access to a rental car.

However, these features are known in the art, as evidenced by Whipp. In particular, Whipp suggests checking by the reservation server an availability of a requested car and, if a car is available, creating by the reservation server a digital key by car and user information with a digital signature of the reservation server (See Whipp, Page 5, Paragraphs 0050-0056); and downloading the digital key to a portable storage device, the portable storage device being used to gain access to a rental car (See Whipp, Page 5, Paragraphs 0050-0056).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have included the features of Whipp within the system of Murakami with the motivation of providing a car rental system minimizing labor costs and local infrastructure support required to lease a vehicle from a remote site (See Whipp, Page 2, Paragraph 0015).

Murakani and Whipp do not explicitly disclose "without communication between the rental car and the reservation server".

However, this feature is known in the art, as evidenced by Rosenberg. In particular, Rosenberg suggests without communication between the rental car and the reservation server (See Rosenberg, Page 6, Paragraph 0071; Page 13, Paragraph 0199).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have included the feature of Rosenberg within the collective teachings of Murakani and Whipp with the motivation of providing no need for exchange of



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information between the vehicle location system control center and the central computer (See Rosenberg, Page 5, Paragraph 0071).

(L) As per claim 12, Murakami discloses the method wherein the step of accessing the reservation server is performed via a network (Col.17, lines 14-67).

(M) As per claim 13, Whipp discloses the method wherein the network is the Internet (Page 5, Paragraph 0052).

The motivation for combining the respective teachings of Murakami, Whipp and Rosenberg are as discussed above in the rejection of claims 1 and 11, and incorporated herein.

(N) As per claim 14, Whipp discloses the method wherein the step of authenticating a prospective car renter includes the steps of

prompting the prospective car renter to enter a personal identification number (PIN) (Page 7, Paragraphs 0066-0069); and

comparing the entered PIN with a valid PIN for the prospective car renter (Page 7, Paragraphs 0066-0069).

The motivation for combining the respective teachings of Murakami, Whipp and Rosenberg are as discussed above in the rejection of claims 1 and 11, and incorporated herein.

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(O) As per claim 15, Whipp discloses the method wherein the step of creating a digital key comprises the steps of

computing a hash of the car renter's valid PIN (Page 6, Paragraphs 0059-0063);

combining car and renter identification with the hashed PIN (Page 6, Paragraphs 0059-0063); and

digitally signing the combined information by said reservation server (Page 5, Paragraphs 0052--0055).

The motivation for combining the respective teachings of Murakami, Whipp and Rosenberg are as discussed above in the rejection of claims 1 and 11, and incorporated herein.

(P) As per claim 16, Whipp discloses the method further comprising the steps of inserting the portable storage device by a car renter into a slot for receiving the portable storage device in a rented car (Page 5, Paragraphs 0051-0056);

upon detecting the portable storage device inserted into the slot,

obtaining by an access controller installed in the rented car the digital key stored on the portable storage device and checking by the access controller whether the digital key is valid and verifying the signature on the digital key (Page 5, Paragraphs 0051-0056; Page 6, Paragraphs 0059-0063);

if the digital key is valid and the signature is verified, the access

controller then prompting the car renter to enter his or her identification and

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checking for correctness of the car renter's identification (Page 6, Paragraphs 0059-0063; Page 8, Paragraphs 0070-0078); and

if the entered identification for the car renter matches a correct identification on the portable storage device, the access controller activating instruments of the car which the car renter is authorized to have access to (Page 6, Paragraphs 0059-0063; Page 8, Paragraphs 0070-0078).

The motivation for combining the respective teachings of Murakami, Whipp and Rosenberg are as discussed above in the rejection of claims 1 and 11, and incorporated herein.

(Q) As per claim 17, Whipp discloses the method further comprising the steps of upon receiving a car renter's request to return a car, prompting the car renter to insert his or her portable storage device into the slot for the portable storage device (Page 5, Paragraphs 0051-0056);

obtaining by the access controller car status information and car identification (Page 6, Paragraphs 0059-0063; Page 8, Paragraphs 0070-0078);

creating by the access controller a return packet by combining car

status information and the current digital key (Page 6, Paragraphs 0059-0063; Page 8, Paragraphs 0070-0078);

signing the return packet by the access controller, appending the car identification to the signed return packet, and saving the signed return packet into the portable storage device (Page 2, Paragraph 0020; Page 6, Paragraphs 0059-0063; Page 8, Paragraphs 0070-0078); and

invalidating by the access controller a current digital key (Page 6, Paragraphs 0059-0063; Page 8, Paragraphs 0070-0078).

The motivation for combining the respective teachings of Murakami, Whipp and Rosenberg are as discussed above in the rejection of claims 1 and 11, and incorporated herein.

(R) As per claim 18, Whipp discloses the method further comprising the steps of upon receiving a car renter's request to return a car, retrieving the return packet from the portable storage device (Page 5, Paragraph 0052-0056) ; verifying a signature on the return packet (Page 6, Paragraph 0060-0063); and updating the car status and printing a receipt for the car renter (Page 6, Paragraph 0060-0063).

The motivation for combining the respective teachings of Murakami, Whipp and Rosenberg are as discussed above in the rejection of claims 1 and 11, and incorporated herein.

(S) As per claim 19, Murakami discloses the method wherein the portable storage device is a smart card (Col.7, lines 1-7).

(T) As per claim 20, Murakami discloses the system wherein each of said fleet of cars has a storage device for storing a record of the digital key (See Murakami, Col.11, lines 6-67 to Col.12, line 67; Col.13, lines 1-67).

### Response to Arguments

5. Applicant's arguments filed on 07/08/04 with respect to claims 1-20 have been fully considered but they are not persuasive. Applicant's arguments will be addressed hereinbelow in the order in which they appear in the response filed on 07/08/04.

(A) At pages 8-24 of the 07/08/04 response, Applicant argues the followings:

(1) Murakami, Whipp and Rosenberg do not teach how a digital key can be validated without a data link and their combination would not result the claimed invention.

(2) The combination of Murakami, Whipp and Rosenberg would not result the claimed invention.

(B) With respect to Applicant's first argument, Examiner respectfully submits that Rosenberg suggests "[0003] WO 93/20539 describes a system in which a unique digital and/or alphabetical code is assigned to each parking space and a vehicle is also assigned a unique digital and/or alphabetical code. When the vehicle has been parked in the parking space, the driver dials on a telephone the code of that parking space, the vehicle code and the personal or payment responsibility code. This code combination is sent via a transmitter and a relay station to a database, and the information concerning the parking space, the vehicle using it and the person responsible for paying the parking fee are registered. When the driver collects the vehicle from the parking space, he or she sends again the aforesaid information to said database over the vehicle telephone, and the database records that the parking period has been terminated. In this way the

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parking cost is debited by an appropriate authority or company” which correspond to Applicant’s claimed feature (See Rosenberg, Page 1, Paragraph 0003). Therefore, Applicant’s argument is not persuasive.

Furthermore, Examiner notes that Rosenberg suggests “[0071] In the previously mentioned case, viz. if the VLU is activated by the driver only for purposes of starting a parking procedure and only at the moment of parking, the same operational phases may take place, viz. the signal which starts the operation of the VLU will also cause the central computer to be placed in information exchange connection with the vehicle location control center; however, alternatively, the driver may communicate to the central computer a parking code, containing identification of the parking zone, as herein described, and in this case there will be no need for exchange of information between the vehicle location system control center and the central computer” which correspond to Applicant’s claimed feature. Therefore, Applicant’s argument is not persuasive.

(C) With respect to Applicant’s second argument, Examiner respectfully submits that obviousness is not determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See *In re Oetiker*, 977F. 2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); *In re Hedges*, 783F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir.1992); *In re Piaseckii*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir.1984); *In re Rinehart*, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976). Using this standard, the Examiner respectfully submits that he has at least satisfied the burden of presenting a prima facie case of obviousness, since he has

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presented evidence of corresponding claim elements in the prior art and has expressly articulated the combinations and the motivations for combinations that fairly suggest Applicant's claimed invention (See the previous Office Action). Note, for example, in the instant case, the Examiner respectfully notes that each and every motivation to combine the applied references are accompanied by select portions of the respective reference(s) which specially support that particular motivation and /or an explanation based on the logic and scientific reasoning of one ordinarily skilled in the art at the time of the invention that support a holding of obviousness. As such, it is not seen that the Examiner's combination of references is unsupported by the applied prior art of record. Rather, it is respectfully submitted that explanation based on the logic and scientific reasoning of one of ordinarily skilled in the art at the time of the invention that support a holding of obviousness has been adequately provided by the motivations and reasons indicated by the Examiner, *Ex parte Levengood*, 28 USPQ2d 1300(Bd. Pat. App. & Inter., 4/22/93). Therefore, the combination of references is proper and the rejection is maintained.

In addition, the Examiner recognizes that references cannot be arbitrarily altered or modified and that there must be some reason why one skilled in the art would be motivated to make the proposed modifications. However, although the Examiner agrees that the motivation or suggestion to make modifications must be articulated, it is respectfully contended that there is no requirement that the motivation to make modifications must be expressly articulated within the references themselves. References are evaluated by what they suggest to one versed in the art, rather than by

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their specific disclosures, *In re Bozek*, 163 USPQ 545 (CCPA 1969). Therefore, Applicant's argument is not persuasive.

Further, it is respectfully submitted that Applicant merely provides a piecemeal analysis of the teachings of the Murakami, Whipp and Rosenberg references, separately, and in a vacuum. As such, it is respectfully submitted that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In addition, with specific reference to Applicant's remarks about the Whipp reference, the Examiner respectfully submits that it is sufficient to demonstrate that the prior art meets the limitations as claimed, whether by a single instance or scenario, or in every possible preferred embodiment, since it was determined in *In re Lamberti et al*, 192 USPQ 278 (CCPA) that:

- (i) obviousness does not require absolute predictability;
- (ii) non-preferred embodiments of prior art must also be considered; and
- (iii) the question is not express teaching of references, but what they would suggest. Therefore, Applicant's argument is not persuasive.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the



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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vanel Frenel whose telephone number is 703-305-4952. The examiner can normally be reached on Monday-Thursday from 6:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Thomas can be reached on 703-305-9588. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

V.F  
V.F

September 30, 2004

*Alvinde Chiriac*  
*EXAMINER K. K. K. K. K.*  
*Art 3626*  
*Primary Examiner*